State of Utah
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Don A. Ostler, P.E.
Director

288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 538-6146 Voice
(801) 538-6016 Fax
(801) 536-4414 T.D.D.

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DOGM RECEIVED
FEB 12, 1998

February 10, 1998

Mr. Ron Ryan
S.F. Phosphates
9401 No. Highway 191
Vernal, UT 84078

Dear Mr. Ryan:

Re: Nov. 11, 1997 Tailings Storage Facility Scoping Plan

We have reviewed the above referenced scoping plan prepared and submitted on your behalf on Nov. 19, 1997 by JBR Environmental Consultants, Inc. Our review has resulted in the following comments:

1. In our July 7, 1997 letter, you were advised that any expansion or new tailing facility would require an individual ground water discharge permit per by UAC R317-6-6.2. While we have not received an application for this permit, we conducted our review of the scoping document for adequacy in meeting the provisions of UAC R317-6-6.2 which outlines the different components essential for a complete application. From this standpoint the scoping document is not comprehensive although it did surface some issues that will certainly need to be addressed in greater detail in the application. These are:

   a. In order to assess the potential impact to Steinaker Reservoir, much greater hydogeologic information must be submitted. This should include various geologic cross-sections through the area, recent water quality sampling results from various wells in the area and water quality data on Steinaker Reservoir.

   b. The document states that there are no anticipated surface water quality impacts to Steinaker Reservoir because it is in a different drainage basin and that all storm water runoff will be contained on-site. However, beyond this general statement no specific details are given that would support the specific storm event the facilities could sustain, what the downstream water resources consists of, etc.

   c. Geologic statements are made indicating the site to have conservative conditions because the Mancos Shale is impervious and functions as an aquitard. However, it is also stated that it contains saline water in the area, indicating it may have some fractured permeability.

   d. The seepage from the proposed Tailing Storage Facilities (TSF) is assumed to be minimal based on a reported liner compacted permeability of 4.2 x 10-9. This permeability claim needs to be supported by actual test data.

   e. The report contained some limited chemical analysis of the presumed leachate from the tailings. While this data is useful for preliminary discussions, any future chemical analyses would need

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f. The tentative waste stream analysis indicate possible concentrations for Gross Alpha of 14 pCi/L and Gross Beta of 25 pCi/L. These are very close to the ground water standard and are of concern. This would need to be compared to ambient surface and ground water quality submitted as part of the application. These values are also above those used the by Division of Radiation Control as criteria for requiring a source material license from that agency. We recommend you contact Dane Finerfrock at (801) 536-4257 to address any concerns that agency may have. In addition to this issue, it is indicated that the waste stream has a TDS of approximately 2230 mg/l but stated that no ground water standard is available for comparison. While there is not an individual ground water quality standard, there are ground water class standards which function as criteria for prevention of contamination and should be used for assessment purposes. UAC R317-6-4 specifies this numeric TDS concentration for a given class of ground water used in establishing protection levels when developing ground water discharge permits.

2. In the preparation of a ground water permit application meeting the provisions referenced above, a ground water discharge permit can only be issued provided it can comply with the requirements of UAC R317-6-6.4. This requires the applicant to use best available technology in the design of the facility to minimize the discharge of pollutants. No information was provided on the type of design anticipated to be used at the proposed facility. Prior to commencing the preparation of detailed design plans and specifications, we recommend that you establish the feasibility of the proposed design. This information should be compiled in a preliminary engineering report as outlined in UAC R317-3-1 and submitted for our review.

Should you have questions concerning the above or wish to discuss these issues further, please contact either Lyle Stott or Larry Mize of this office.

Sincerely,

Fred C. Pehrson

Fred C. Pehrson, P.E., Manager
Permits, Compliance & Monitoring Branch

FCP:ljm/fb

cc: JBR Environmental Consultants, Inc.
Tri-County Health Dept.
Division of Radiation Control
Division of Oil, Gas and Mining
Bureau of Land Management, Vernal
Ted Allen

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